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Some factors relating the success of Richmond College students to their high school preparation

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SOME FACTORS RELATING THE SUCCESS OF RICHMOND COLLEGE STUDENTS TO THEIR HIGH SCHOOL PREPARATION

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PREFACE

This thesis was prepared under the supervision of Doctor Edward F. Overton, Professor of Education and Dean of Summer School, of the University of Richmond. The author wishes to express his sincere gratitude to Doctor Overton for his aid and encouragement, and to Doctor Raymond B. Pinchbeck, Dean of Richmond College, and Miss Helen A. Monsell, Registrar, for making available the necessary data. The author is also grateful to the Library Staff of the University of Richmond, the Virginia State Library, the Alderman Library at the University of Virginia, and to Mrs. Elizabeth N. Layton, Research Assistant, Division of Higher Education, United States Office of Education.

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CHAPTER I

INTRODUCTION

This study is undertaken to reveal the answers to some of the many problems confronting educators in both secondary schools and colleges. Two classes entering Richmond College have been selected for a detailed analysis of their members over a two year period. The Freshman Class entering in the session 1938-1939 was selected to represent the pre-war period for it was felt that their first two years were completed before the pressure of the war could distort the academic picture. The Freshman Class entering in the session 1948-1949 was selected as representative of college entrants in normal times since the close of World War Two.

For the purposes of this study, it was decided to select, from the official roster of Freshmen of these two years, only those cases covered in the following categories: (1) This must be his first entrance into Richmond College. (2) He must not have previously attended any other college or university. On these bases 225 men entering in the 1938-1939 session were selected, and 320 men were selected from the entrants in the session 1948-1949.

For the portions of the study where the size of high school and the rank of the student in the graduating class

were used, it was necessary to eliminate the cases in which the permanent record cards did not reveal this information. For these studies, the number of 1938-1939 session cases was 189, and the number of 1948-1949 session cases was 259.

In making this study, an answer was sought for the three basic questions which follow: (1) What is the relationship of size and kind of secondary school to academic success in college? (2) What is the relationship between academic rank of a student in his high school graduating class and his academic rank in college? (3) What is the relationship between courses a student pursues in high school and academic success in college?

Throughout the study reference is made to the class of 1938 and the class of 1948 which means that the group of students began their studies in Richmond College in the session of 1938-1939, or in the session of 1948-1949. For purposes of academic grouping in high school graduating class and in college student body the quintile system has been used. First quintile indicates that the student was in the low twenty per cent of his high school graduating class or in the low twenty per cent of the student body in college for the particular semester. The same system is used to designate the other groups such as: second quintile, third quintile, fourth quintile, and fifth quintile.

High school courses referred to are grouped as follows: (1) English: all high school English classes. (2) Mathematics: Algebra, Commerical Arithmetic, General Mathematics, Plane Geometry, Solid Geometry, Trigonometry, and Calculus. (3) History: American History, Ancient History, English History, World History, Early European History, Puerto Rican History, Chinese History, Civics, Vocational Civics, Government, World Government, and Economics, Sociology, and all Social Studies. (4) Ancient and Foreign Languages: French, German, Greek, Italian, Latin, and Spanish. (5) Sciences: Biology, Chemistry, General Science, Physical and Natural Science, and Physics. (6) Vocational Subjects: Agriculture, Automobile Mechanics, Electricity, Printing, Radio, and other trades. (7) Clerical: Typing, Shorthand, Business Law, Business Methods, Business Practices, and Bookkeeping. (8) Miscellaneous, composed of Art, Music, Drama, Physical Education, Military, and Health.

High school, as referred to in this study, is synonomous with secondary school, and is defined as "the school division following the elementary school, comprising most often grades nine to twelve or grades seven to twelve".[1]

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1. Good, Carter, V., Editor, Dictionary of Education, New York and London, McGraw-Hill Book Company, Inc., 1945, p. 201.

A public high school is classified as large when its graduating class is composed of fifty or more members. Any public school with less than fifty graduates in a year is referred to as small. A kind of high school as referred to in this thesis may mean either private or public secondary school in Virginia, outside Virginia, but in the United States, or foreign, meaning at a location outside of the United States.

A case or cases, as referred to in this study, is a record or a group of records compiled on cards listed as Form I in the Appendix. These case cards were filled in by the author with information obtained from the permanent record cards which are filed in the Registrar's Office of Richmond College.

In cases involving the use of quintile analysis for high school graduate ranking, it was not possible to use sixty-eight of the record cards of the class of 1948, and thirty-six from the class of 1938. The reason for the omission of these cases varied from a failure to show rank in graduating class by the high school involved to the fact that the student did not graduate. Those who did not graduate are called non-grads in this study, and number six cases in the 1948 class, and only one case in the 1938 class.

It is felt that on the basis of the extremely small number of such cases involved no significant conclusions can be drawn as to the probable successes or failures of these men.

In preparation for this study, it was necessary to determine what significant work had been done in this field. On the basis of preliminary investigations conducted by the author in the Library of the National Education Association and other facilities of this organization as well as from consultations with members of the Staff of the Office of Education, Federal Security Agency, the previous works were uncovered. Finally after consultations with Dr. Raymond B. Pinchbeck, Dean of Richmond College, and Miss Helen A. Monsell, Registrar of Richmond College, the need for and coverage of the study were decided upon.

Form I, Appendix was designed by the author in such a way as to be most useful in collection and analysis of available data. Without this form the detailed analysis of cases and grouping of cases would hardly have been possible for such a wide coverage.

CHAPTER II

WHAT IS THE RELATIONSHIP OF SIZE AND KIND OF SECONDARY SCHOOL TO ACADEMIC SUCCESS IN RICHMOND COLLEGE

In general, it seems that the public is well aware of the continous pressure that is being placed upon it to support a movement to consolidate schools. For example, between 1938 and 1942 the number of high schools decreased from 645 to 609 in Virginia. On this basis, it would seem that the Freshmen entering Richmond College from the schools whose graduating class numbered fifty or more would have increased. An analysis of information in Table I, Sections A and B, shows the increase of such students from 1938 until 1948 to be only one man. The entering number of students from the small Virginia public high school as revealed in this Table has more than doubled as have the entrants from all other school groupings.

Section B of Table I shows that there were 136 cases of students who entered in 1948 who were graduated from large public high schools in Virginia. At the end of the first semester of college work, the average student from this group ranked 778 in a total student body of 1341. This rank

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1. Lankford, Dr. F. G., Director of Study, Opportunities For the Improvement of High School Education in Virginia. Richmond, Virginia.: Virginia State Chamber of Commerce, 1944, p. 3.

TABLE I

CLASSIFICATION OF SECONDARY SCHOOLS SHOWING RELATIONSHIP TO ACADEMIC SUCCESS OF STUDENTS AT RICHMOND COLLEGE IN CLASSES ENTERING SEPT. 1938 (TABLE A) and 1948 (TABLE B)

A

CLASSIFICATION OF SCHOOL	NUMBER OF CASES	AVG. POSITION in 673 FOR FIRST SEM.		AVG. POSITION in 646 FOR SECOND SEM.		AVG. POSITION in 675 FOR THIRD SEM.		REMAINING IN COLLEGE FOR FOURTH SEM.	
		RANK	QUINTILE	RANK	QUINTILE	RANK	QUINTILE	NO.	PER CENT
Va. Large Pub.	135	454	2	453	2	444	2	107	79.26
Va. Small Pub.	43	382	3	325	3	305	3	35	81.39
Va. Private	16	408	2	398	2	364	3	9	56.25
Out-of-State Pub.	25	361	3	346	3	382	3	15	60.00
Out-of-St. Private	4	357	3	443	2	591	1	1	25.00
Foreign	2	359	3	347	3	391	3	2	100.00
Total	225						Total	169 avg.	75.11

B

CLASSIFICATION OF SCHOOL	NUMBER OF CASES	AVG. POSITION in 1341 FOR FIRST SEM.		AVG. POSITION in 1235 FOR SECOND SEM.		AVG. POSITION in 980 FOR THIRD SEM.		REMAINING IN COLLEGE FOR FOURTH SEM.	
		RANK	QUINTILE	RANK	QUINTILE	RANK	QUINTILE	NO.	PER CENT
Va. Large Pub.	136	778	3	688	3	493	3	87	63.97
Va. Small Pub.	87	896	2	710	3	515	3	45	51.72
Va. Private	30	894	2	833	2	562	3	13	43.33
Out-of-State Pub.	54	681	3	555	3	506	3	33	61.11
Out-of-St. Private	9	878	2	820	2	585	3	6	66.66
Foreign	4	1002	2	986	2	614	2	3	75.00
Total	320						Total	187 avg.	58.43

is in the third quintile. At the end of the second semester, the average student from this group ranked 688 in 1235, or in the third quintile. At the end of the third semester, the average student ranked 493 in 980, or in the third quintile. There were eighty-seven of the original 136 entrants enrolled for the fourth semester, which is 63.97 per cent of the original entrants.

In 1938, the average student from a large Virginia city or public high school ranked in the second quintile of Richmond College students at the close of each of his first three semesters' work. In 1948, the average student from this same type of high school ranked in the middle or third quintile at each of the same three periods. This would tend to indicate that the large schools are doing a better job in preparing men for college since the war than they did before the war.

In the 1938 class, there were 79.26 per cent of the students from large high schools who were still in college at the close of their fourth semester, the Spring Term of the session 1939-1940. The drop-outs have now increased to 36.03 per cent or more than ten per cent increase in ten years. Several explanations may be offered for this increase in drop-outs by entrants from large Virginia high schools:

(1) The schools may not be preparing the students for over-all college success as well now as they did ten years ago. (2) With larger enrollment in Richmond College since the war the competition may be too great and individual attention, which may have caused students to stick to their task, may have been lessened with the added teaching burdens of the professors. (3) More students attend Richmond College now than in years before the war, in order to meet requirements for entrance to technical and engineering institutions.[2]

As will readily be seen from Tables I and II, the same tendency for increased drop-outs during the first four semesters is evident in all classes of schools except the out-of-state public high schools and out-of-state private high schools from which the percentage of drop-outs has decreased. The over-all increase of drop-outs from 24.89 per cent in the '38 case study to 41.57 per cent in the '48 case study presents rather an alarming picture and warrants the consideration of Richmond College administrators in view of a complete understanding of all pertinent facts.

The small public high schools in Virginia were seemingly doing a better job at preparing students for college before

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2. Conference with Miss Helen A. Monsell, Registrar of Richmond College, July, 1950.

the war than large Virginia public high schools and Virginia private high schools. Both small Virginia public high schools and out-of-state public high schools were able to maintain their average student in the third quintile of Richmond College students for the entire first three semesters covered in this study. In the case study of the '48 students, it appears that the small Virginia public high school may not have done as good a job in preparing their men for entrance into college life, but after one semester the background which they had been given may have contributed to their advancement into the third quintile of college students.

The quintile analysis of the average entrant to Richmond College from the private high schools of Virginia in his standing in the college student body indicates no change. The out-of-state public high schools have retained the same relative position since the war that they occupied before the war.

The fact that students in Richmond College from public secondary schools from other states seem to adjust as well as the students of large Virginia high schools indicates that the preparation for college entrance of these two school classifications may be comparable. An analysis of the subjects which students offered for entrance requirements

reveals that students from large Virginia high schools presented as wide a range of courses as did those of the students from out-of-state public high schools.

Though the same system of analysis was used for out-of-state private schools and for foreign schools, it is felt that the figures presented in both Tables I-A and I-B concerning these two kinds of schools may not be considered as valid because of the lack of numbers for study and comparison.

In summarizing the study of relationship of size and kind of secondary school to academic success in Richmond College the following may be said: (1) There seems to have been an over-all improvement in preparation for entrants into Richmond College by the large Virginia high schools since 1938. (2) The small public high schools in Virginia were seemingly preparing students for entrance into Richmond College better before the war than now. (3) It would seem that equal preparation for college was given by out-of-state public high schools and large public high schools in Virginia. (4) The drop-out rate has tended to increase for all kinds of schools except out-of-state public and out-of-state private schools. More students from all kinds of high schools attend Richmond College in order to meet requirements for entrance into technical and engineering institutions now than before World War II.

CHAPTER III

WHAT IS THE RELATIONSHIP BETWEEN THE ACADEMIC RANK OF A STUDENT IN HIS HIGH SCHOOL GRADUATING CLASS AND HIS ACADEMIC RANK IN COLLEGE AT THE END OF HIS FIRST, SECOND, AND THIRD SEMESTERS

Tables II through VII have been constructed to reveal the relative quintile standings between high school graduating class and Richmond College student body for the two classes covered by this study. Table II is the basic Table of this chapter for it furnished an analysis on the basis of quintile ranking in the high school graduating class for the students who entered Richmond College in September of 1938, and those who entered in September of 1948.

In reading Table II, it is found that the high school class ranking of students who entered Richmond College in the session 1938-1939 were as follows: 70 in the fifth quintile of their class, 46 in the fourth quintile, 39 in the third quintile, 23 in the second quintile, 10 in the fifth quintile, and one non-grad. This made a total of 189 students' cases. Figures for the 1948-1949 entrants are to be read in the same order.

The success of the students analyzed in Table II has been followed through each of their first three semesters of college work. Tables III through V are constructed in such

TABLE II

A QUINTILE ANALYSIS OF THE RANKING OF HIGH SCHOOL GRADUATES IN THEIR RESPECTIVE CLASSES WHO WERE ADMITTED TO RICHMOND COLLEGE IN THE SESSION 1938-1939 AND THE SESSION 1948-1949

YEAR	FIFTH QUINTILE	FOURTH QUINTILE	THIRD QUINTILE	SECOND QUINTILE	FIRST QUINTILE	NON GRADUATES
1938-'39	70	46	39	23	10	1
Total	189					
1948-'49	57	66	70	33	27	6
Total	259					

TABLE III

A COMPARISON OF THE RICHMOND COLLEGE STUDENT BODY RANKING BY QUINTILES WITH HIGH SCHOOL GRADUATING CLASS RANKING BY QUINTILES MADE AT THE END OF THE FIRST SEMESTER OF COLLEGE WORK BY THE MEN ADMITTED IN 1938 (TABLE A) and 1948 (TABLE B)

A

H.S. QUINTILE RANK	NO. OF CASES	QUINTILE RANKING IN RICHMOND AFTER ONE SEMESTER					
		FIFTH	FOURTH	THIRD	SECOND	FIRST	DROP-OUTS
Fifth	70	26	20	11	7	6	0
Fourth	46	4	6	13	11	12	0
Third	39	2	6	7	10	14	0
Second	23	1	0	2	5	15	0
First	10	0	0	3	2	5	0

B

H.S. QUINTILE RANK	NO. OF CASES	QUINTILE RANKING IN RICHMOND AFTER ONE SEMESTER					
		FIFTH	FOURTH	THIRD	SECOND	FIRST	DROP-OUTS
Fifth	57	21	18	9	4	5	0
Fourth	66	10	16	10	11	19	0
Third	70	3	6	15	19	27	0
Second	33	0	3	6	3	21	0
First	27	1	0	5	6	15	0

TABLE IV

A COMPARISON OF THE RICHMOND COLLEGE STUDENT BODY RANKING BY QUINTILES WITH HIGH SCHOOL GRADUATING CLASS RANKING BY QUINTILES MADE AT THE END OF THE SECOND SEMESTER OF COLLEGE WORK BY THE MEN ADMITTED IN 1938 (TABLE A) and 1948 (TABLE B)

A

H.S. QUINTILE RANK	NO. OF CASES	QUINTILE RANKING IN COLLEGE STUDENT BODY					
		FIFTH	FOURTH	THIRD	SECOND	FIRST	DROP-OUTS
Fifth	70	22	26	10	6	4	2
Fourth	46	3	9	10	6	16	2
Third	39	5	4	6	14	9	1
Second	23	0	3	1	3	14	2
First	10	0	0	1	3	5	1

B

H.S. QUINTILE RANK	NO. OF CASES	QUINTILE RANKING IN COLLEGE STUDENT BODY					
		FIFTH	FOURTH	THIRD	SECOND	FIRST	DROP-OUTS
Fifth	57	22	12	8	10	5	0
Fourth	66 ~~64~~	12	14	12	9	8	11
Third	70	6	10	11	13	29	1
Second	33	1	4	4	5	12	7
First	27	0	1	2	5	17	2

TABLE V

A COMPARISON OF THE RANKING IN QUINTILES IN THE RICHMOND COLLEGE STUDENT BODY WITH HIGH SCHOOL GRADUATING CLASS RANKING BY QUINTILES MADE AT THE END OF THEIR THIRD SEMESTER OF COLLEGE WORK BY THE MEN ADMITTED IN 1938 (TABLE A) and 1948 (TABLE B)

A

H.S. QUINTILE RANK	NO. OF CASES	QUINTILE RANKING IN COLLEGE STUDENT BODY					
		FIFTH	FOURTH	THIRD	SECOND	FIRST	DROP-OUTS
Fifth	68	22	15	9	7	6	9
Fourth	44	5	5	13	8	9	4
Third	38	2	4	8	13	8	3
Second	21	0	2	3	3	8	5
First	9	0	0	0	4	2	3

B

H.S. QUINTILE RANK	NO. OF CASES	QUINTILE RANKING IN COLLEGE STUDENT BODY					
		FIFTH	FOURTH	THIRD	SECOND	FIRST	DROP-OUTS
Fifth	57	20	14	7	3	3	10
Fourth	55	10	9	8	12	6	10
Third	69	7	3	9	19	13	18
Second	26	3	1	4	5	7	6
First	25 ~~23~~	0	0	5	4	4	12

a manner that a clear concept of the successes of various entrants in both classes may be gained from one page for any one semester of college work.

In Table III-Section A, there are 70 cases who ranked in the fifth quintile in their high school graduating class. After completing one semester of college work, 26 ranked in the fifth quintile, 20 in the fourth, 11 in the third, 7 in the second, and 6 in the first quintile of the college student body. All 70 who started at the beginning of the semester were still enrolled at the close of the semester. The remaining cases of this section and Section B are to be read in the same manner as are also Tables IV and V.

Table VI, Sections A and B, reveal the number of students remaining in Richmond College for their fourth semesters' work and the per cent of each quintile of the high school graduating classes these men comprise. Line One of Table VI, Section A, should be read as follows: In 1938, there were 70 men from the fifth high school quintile who began their academic career, but only 59 or 84.29 per cent of this 70 who started were enrolled for their fourth semesters' work in Richmond College. The remaining cases of this Table and Table VI, Section B, are to be read in the same manner. The final two Tables of this chapter show the number of men

TABLE VI

AN ANALYSIS OF STUDENTS WHO STAYED IN COLLEGE
FOUR SEMESTERS THROUGH JUNE 1940 (TABLE A)
AND THROUGH JUNE 1950 (TABLE B)

A

STARTED YEAR	NO.	H.S. RANK QUINTILE	ENROLLED FOR FOURTH SEM.	PER CENT
1938	70	5	59	84.29
	46	4	40	87.00
	39	3	32	82.05
	23	2	14	60.87
	10	1	5	50.00
Total	188	Total	150 Per Cent	79.84

B

STARTED YEAR	NO.	H.S. RANK QUINTILE	ENROLLED FOR FOURTH SEM.	PER CENT
1948	57	5	42	73.70
	66	4	41	62.11
	70	3	38	54.29
	33	2	16	48.48
	27	1	12	44.44
Total	253	Total	149 Per Cent	58.89

from each of the five divisions of the academic rankings of high school graduates as they ranked in the five quintiles of the Richmond College student body at the end of the first semester of the 1938-1939 session. (Table VII, Section A, and the 1948-1949 session Table VII, Section B)

Table VII, Section A and B, can be best used to indicate the predictive value of high school academic ranking from each of the four categories of schools contributing the greatest number of men to Richmond College student body. From these Tables, it may easily be seen that in all four kinds of schools furnish student academic rankings which tend to be valid bases upon which to rest a prediction of college success.

Table VII, Section A, Line I, should be read as follows: At the end of the first semester of college work, fifteen men from the top quintile of their graduating class in a large Virginia high school, three men from the fourth quintile in their class, two men from the third quintile in their class, one man from the second quintile in his class, and none from the first quintile in their class ranked among the fifth quintile of the Richmond College student body. In a like manner the number of men from each quintile of rank in their high school graduating class can be read with respect to their rank in the college student body after the first semester of the 1938-1939 session. The remaining classifica-

TABLE VII

A STUDY OF THE RELATIVE RANKINGS OF STUDENTS FROM EACH OF THE FOUR MAJOR STUDENT CONTRIBUTING CLASSES OF SECONDARY SCHOOLS COMPARED WITH THEIR RANKINGS IN THE RICHMOND COLLEGE STUDENT BODY AFTER ONE SEMESTER'S WORK. (TABLE A FOR 1938 ENTRANTS AND TABLE B FOR 1948 ENTRANTS)

A

CLASSIFICATION OF SCHOOL	FIFTH H.S.QUINTILE IN COLLEGE QUINTILES					FOURTH H.S.QUINTILE IN COLLEGE QUINTILES					THIRD H.S.QUINTILE IN COLLEGE QUINTILES					SECOND H.S.QUINTILE IN COLLEGE QUINTILES					FIRST H.S.QUINTILE IN COLLEGE QUINTILES				
	V	IV	III	II	I	V	IV	III	II	I	V	IV	III	II	I	V	IV	III	II	I	V	IV	III	II	I
Va.Large Pub.	15	12	8	1	2	3	4	10	6	9	2	3	3	5	9	1	0	2	2	8	0	0	1	1	4
Va.Small Pub.	8	4	2	5	3	0	1	1	3	2	0	1	0	1	2	0	0	0	1	5	0	0	0	0	0
Va. Private	0	0	0	1	0	1	0	0	0	0	0	1	1	1	2	0	0	0	0	0	0	0	0	0	1
Out-of-St.Pub.	3	2	1	0	1	0	1	2	1	1	0	1	2	2	1	0	0	0	2	2	0	0	1	0	0

B

CLASSIFICATION OF SCHOOL	FIFTH H.S.QUINTILE IN COLLEGE QUINTILES					FOURTH H.S.QUINTILE IN COLLEGE QUINTILES					THIRD H.S.QUINTILE IN COLLEGE QUINTILES					SECOND H.S.QUINTILE IN COLLEGE QUINTILES					FIRST H.S.QUINTILE IN COLLEGE QUINTILES				
	V	IV	III	II	I	V	IV	III	II	I	V	IV	III	II	I	V	IV	III	II	I	V	IV	III	II	I
Va.Large Pub.	11	8	4	1	1	3	7	4	3	1	2	2	9	8	9	0	2	3	1	12	1	0	3	3	12
Va.Small Pub.	2	4	3	2	4	3	8	1	4	8	1	1	2	6	9	0	1	0	1	2	0	0	1	0	2
Va. Private	2	2	0	0	0	0	0	0	0	3	0	0	1	2	1	0	0	1	0	6	0	0	1	1	1
Out-of-St.Pub.	6	4	1	1	0	3	1	5	2	1	0	3	3	3	6	0	0	0	1	1	0	0	0	1	0

tions of high schools for Table VII, Section A, and those for Table VII, Section B, can also be read in the same manner.

A study conducted in the College of Liberal Arts of the University of Pittsburg revealed that sixty-nine per cent of those admitted from the bottom three-fifths of their high school classes failed out academically. The largest percentage of failures in this study came from the middle quintile.[2]

Upon carefully sifting the case cards of the 1938 entrants into Richmond College, it was found that: forty per cent from the bottom quintile, twenty-six per cent from the second quintile, none from the third quintile, eight per cent from the fourth quintile, and none from the top quintile withdrew because of poor academic work. A similar study of the 1948 cases did not present a far different picture. The withdrawal percentage during the first four semesters of the 1948 class entrants due to poor scholarship is as follows: fifty-two per cent from the lowest quintile, fifty per cent from the second quintile, thirty-six per cent from the third quintile, twenty per cent from the second quintile, and only

1. Held, Omar Conrad, "Students Asked to Leave"., Journal of High Education, 12:318-20, June, 1941.
2. Ibid.

seven per cent from the fifth or top quintile.

The need for a more careful screening of all applicants from the lowest three quintiles of high school entrants before they are accepted into Richmond College is indicated. The fourth chapter of this thesis dealing with the relationships between courses in high school and college will be found helpful in carrying out this screening process.

This chapter has demonstrated that the academic ranking of a student in his high school graduating class may frequently be used as a predictive measure of college success. That is to say, there seems to be a definite carry over of ability to achieve academic success from the secondary level to the higher level of education. There is a definite, observable trend to sink lower in the academic level of college studies as the level of high school achievement is lowered.[3] The high level secondary school graduate continues to work on a high academic plane in college; while the student endowed with fewer academic skills tends to slip downward on the scale or to drop out as the going gets harder in more

3. Lankford, Francis G., Jr., Director of Study, Opportunities for the Improvement of High School Education in Va., p. 60 and pp. 63 and 64, 1944.

advanced courses.

There may be many reasons offered for the increased percentage of those leaving college due to academic failures in the study of the 1948 entrants as compared with those of 1938. In the mind of the author the two most probable are: (1) High schools are graduating a larger percentage of their entrants now than before the war, thus increasing the quantity of graduates to be grouped and lessening the selectivity of academic ranking. (2) The college admissions board is unable to exercise as rigid inspection of entrants as formerly because of the increased pressure of greatly enlarged enrollments and pressure to admit more students.[5]

The pressure being placed on colleges to admit more students can be explained as a resultant from the increase of income of many people in the United States since World War II[6] and those taking advantage of the G. I. benefits and enlarged graduating classes from which applications are received. Gradually the number of students entering college under the benefits of Public Laws 16 and 346 will subside, but the high school graduating classes will soon be swelled by war babies who have completed work on a secondary level.

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4. Dickhoff, John H., Democracy's College. Passim. 1950.
5. Ibid. p. 131.
6. Lankford, Francis G., op.cit., p. 61.

This makes the adoption of more stringent requirements for admissions imperative unless public pressure forces a lowering of college standards. However, the author feels that the value of a college education will be lessened and a system of mediocrity will result unless high standards for college training are continued. Perhaps the minimum standards committee suggested by Dr. Lankford, member of the Education Faculty of the University of Virginia, in his 1944 study for the Virginia State Chamber of Commerce can be brought into being and help solve admissions problems:[7]

> "To help further in improving college selection of high school graduates, a joint committee of high school principals and representatives of colleges should be created to recommend minimum standards for college admissions. This committee should give continuous study to the problem and recommend revisions in admission requirements whenever needed."

In this chapter, it has been shown that there is a very close relationship, in most cases, between academic rank in high school and academic rank in Richmond College. It would be desirable to admit only students from the top forty per cent of their respective high school graduating classes in order to lessen the number of academic failures. There should be a continuous cooperation between Richmond College and all high schools whose graduates may seek admission in order that students will be better advised about entrance requirements and background subjects.

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7. Ibid., p. 106.

CHAPTER IV

WHAT IS THE RELATIONSHIP BETWEEN COURSES A STUDENT PURSUES IN HIGH SCHOOL AND ACADEMIC SUCCESS IN COLLEGE

In an analysis of the 189 students who entered in 1938, as considered in this study, it was found that fourteen withdrew from Richmond College because of academic failures during their first four semesters of study. Table VIII has been constructed to show the courses offered for admission by this group. This Table also shows the courses offered for admission by fourteen successful students. In so far as possible the control group of cases was selected on a basis of matching a student failure with a student among the top twenty per cent of the college student body from the same high school or kind of high school.

In Table VIII, the left column lists high school courses as classified in the Introduction. By reading to the right from the subjects the number of students who took courses in these fields who were academic failures, and also the number of students who were top ranking students, and how much work each took can be determined.

In this Table, it was found that both failures and top ranking men had all had four years of English. The failing group had averaged four years of mathematics while the top group averaged three and one-half. More top men offered

four years of History than did the failing students. Most of the failing students offered only two years of Ancient and Foreign Languages while the majority of the top men offered four or more years. Three of the failures, but only one top man, offered no Foreign Language course.

Two of the failing students presented four years of Science while none of the best students offered this many units of Science. However, six of the control group of students offered three years of Science while only three of the drop-outs had three or more years of Science. This superiority in showing of the top men may be considerably lessened, however, by noting that one of the top men offered no Science units for admission while all of the failures had taken at least one Science class.

Six of the students who withdrew because of academic failure had taken vocational units in high school while only two of the top quintile control group offered vocational units for entrance. Only one of the top men offered clerical work as admission units while five of the drop-outs offered such work. It will also be noted that none of the best students offered any miscellaneous subject units where six of the failing students had taken such courses in high school.

This analysis and comparison reveals the tendency for

good students to take more work in high school mathematics, history, ancient and foreign languages, and science, and do less work in vocational, clerical, and miscellaneous subjects than do the students who drop out of college because of academic failures. It is impossible to say from these facts whether or not subject matter is important. It may well be that the superior students pursue harder on more academic courses in which their intellectual growth is stimulated than do students of lesser abilities. This study does show that students who took more vocational, clerical, and miscellaneous courses and less academic work tended not to succeed in Richmond College.

Table IX has been constructed for 1948 entrants in a similar manner to that used in building Table VIII. However, the number of drop-outs, seventy-one, was so large that pairing them with control cases was not possible. Indeed, the students enrolled in Richmond College from the class who started in 1948, who were in the top quintile, did not amount to one-half of the required number. Therefore, it was necessary to use records of college students from this class who ranked well down into the fourth quintile as controls.

It is significant to note that a student who had taken

only three years of English became an academic failure in college as did a student who had taken no mathematics in high school. Another point worthy of note brought out in Table IX is in the units offered in ancient and foreign languages where seventy-two per cent of the failing students had no high school background while only twenty-eight per cent of the control group had no background of languages.

In Tables X and XI an analysis was made to determine whether the number of years of high school preparation in English and Mathematics respectively that a student had taken could be said to influence the college work of a student in these fields. For both years, the case records comprising the 100 for analysis were chosen to include a student from each kind of high school. In the cases of the '48 entrants into Richmond College, one student had taken only three years of English so another record card was used to replace his.

By constructing these Tables of random samples of student's records using 100 cases of student's records from all kinds of high schools, the Column headed "Number of Cases" may now be used as per cent of students column. A search of cases for both years of entrants did not reveal enough cases of students offering less than or more than four years

of English to use them as a basis of prediction of success in college English.

To interpret this Table, it should be read from left to right that 100 students offered four units of high school English for admission to Richmond College. Of all of these students only ninety per cent passed first semester English (101), and eighty-five per cent passed second semester English (102) in their first two semesters in college. In their third semester, sixty-seven passed English (201), and in their fourth semester, sixty-five passed English (202). The remainder of this Table is to be read in the same manner and as has been noted the figures may be read either as quantity or per cent because of the fact that 100 cases were chosen for this sample.

In Table XI, it will be noted that the greatest number of students take 3, $3\frac{1}{2}$, or 4 years of mathematics in high school. It will also be noted that the number of successful students in mathematics 101-102 increases as their number of years of background increases.

This would tend to prove that the relationship between academic preparation in high school and academic success in college is dependent upon the thoroughness of high school work. The tendency for high schools to offer a greater

TABLE VIII

HIGH SCHOOL COURSES OF FOURTEEN 1938 ENTRANTS INTO RICHMOND COLLEGE WHO WITHDREW BECAUSE OF ACADEMIC FAILURES DURING THEIR FIRST FOUR SEMESTERS OF THEIR CLASS COMPARED WITH FOURTEEN COURSE RECORDS OF STUDENTS WHO RANKED IN THE UPPER QUINTILE FOR THEIR FIRST THREE SEMESTERS

HIGH SCHOOL COURSES	YEARS TAKEN BY STUDENTS WHO FAILED											YEARS TAKEN BY TOP QUINTILE									
	0	½	1	1½	2	2½	3	3½	4	4½ & Over		0	½	1	1½	2	2½	3	3½	4	4½ & OVER
English	0	0	0	0	0	0	0	0	14	0		0	0	0	0	0	0	0	0	14	0
Mathematics	0	0	0	0	0	0	3	4	6	1		0	0	0	0	0	0	5	4	5	0
History	0	0	0	0	1	1	5	0	5	2		0	0	0	1	0	0	2	1	9	1
Anc. & For. Lang.	3	0	1	0	9	0	0	0	1	0		1	0	0	0	2	0	0	0	8	3
Sciences	0	0	5	0	6	0	1	0	2	0		1	0	1	0	6	0	6	0	0	0
Vocational	8	1	4	0	0	0	0	0	1	0		12	0	0	1	0	0	1	0	0	0
Clerical	9	1	2	1	1	0	0	0	0	0		13	0	0	0	0	0	1	0	0	0
Miscellaneous	8	1	3	1	1	0	0	0	0	0		14	0	0	0	0	0	0	0	0	0

TABLE IX

PATTERNS OF COURSES OFFERED FOR ADMISSION IN RICHMOND COLLEGE FROM SECONDARY SCHOOLS SHOWING A COMPARISON OF THOSE OFFERED BY 71 MEN WHO WITHDREW BECAUSE OF ACADEMIC FAILURES BEFORE THE END OF THEIR FOURTH SEMESTER WITH THOSE OF 71 MEN RANKING IN THE TOP TWO QUINTILES FOR THEIR FIRST THREE SEMESTERS STARTING IN 1948

	YEARS TAKEN BY FAILURES										YEARS TAKEN BY TOP 2/5 IN CLASS									
HIGH SCHOOL COURSES	0	½	1	1½	2	2½	3	3½	4	4½ & OVER	0	½	1	1½	2	2½	3	3½	4	4½ & OVER
English	0	0	0	0	0	0	1	0	70	0	0	0	0	0	0	0	0	0	71	0
Mathematics	1	0	3	0	8	5	21	9	16	8	0	0	0	0	5	2	14	10	33	7
History	0	0	0	1	11	4	21	4	27	3	0	0	3	0	13	3	27	5	20	0
Anc. & For. Lang.	51	0	2	1	14	0	1	0	2	0	17	0	1	0	32	1	4	0	9	7
Sciences	3	2	11	0	23	3	21	0	8	0	0	1	10	2	19	1	25	1	12	0
Vocational	28	1	11	4	9	2	7	1	7	1	49	0	11	0	5	0	4	0	1	1
Clerical	40	5	13	2	4	1	4	0	1	1	51	1	13	1	4	0	0	0	0	1
Miscellaneous	35	5	15	3	4	1	6	0	1	1	52	5	11	2	1	0	0	0	0	0

TABLE X

AN ANALYSIS OF THE RELATIONSHIP OF UNITS OF ENGLISH TAKEN IN HIGH SCHOOL TO SUCCESS IN THE FIRST TWO YEARS OF COLLEGE ENGLISH FOR 100 MEN WHO ENTERED RICHMOND COLLEGE IN THE CLASS STARTING IN 1938 AND 100 MEN FROM THE CLASS STARTING IN 1948

NUMBER OF CASES	YEARS TAKEN IN H.S.	PASSED ENG. 101 FIRST YR.	PASSED ENG. 102 FIRST YR.	PASSED ENG.201 SECOND YR.	PASSED ENG.202 SECOND YR.
		STARTING YEAR 1938			
100	4	90	85	67	65
		STARTING YEAR 1948			
1	3	0	0	0	0
100	4	87	86	72	66

TABLE XI

AN ANALYSIS OF THE RELATIONSHIP OF UNITS OF MATHEMATICS TAKEN IN HIGH SCHOOL TO SUCCESS IN THE FIRST TWO YEARS OF COLLEGE MATHEMATICS FOR 100 MEN WHO ENTERED RICHMOND COLLEGE IN THE CLASS STARTING IN 1938 AND 100 MEN FROM THE CLASS STARTING IN 1948

NUMBER OF CASES	YEARS TAKEN IN H.S.	PASSED MATH.101 FIRST YR. FIRST TRY	PASSED MATH.102 FIRST YR. FIRST TRY	PASSED MATH.201 SECOND YR. FIRST TRY	PASSED MATH.202 SECOND YR. FIRST TRY
		YEAR 1938			
5	2	1	0	0	0
3	2½	2	1	0	0
29	3	19	15	5	4
18	3½	11	9	3	2
39	4	30	23	8	6
4	4½	2	2	1	1
2	5	1	2	0	0
		YEAR 1948			
11	2	0	3	1	0
6	2½	2	4	0	0
25	3	10	12	1	2
17	3½	10	11	2	1
36	4	26	25	3	2
5	4½	4	5	3	3
0	5	0	0	0	0

diversity of courses for students to pursue may explain the fact that fewer students had taken 3, $3\frac{1}{2}$, or 4 years of mathematics in high school since World War II than before the War as shown in Table XI.

Further study of Table XI reveals the fact that few students take more than one year of mathematics in college. It was noted in the construction of this Table that men who took a second year of mathematics or more were the men who made high grades on first year mathematics and had taken three years or more of high school mathematics courses.

It would seem that for Richmond College there is a definite relationship between academic success in college and courses taken in preparation in the secondary schools. On the basis of this study a minimum high school background of four years of English and three years of mathematics is indicated as essential for academic success in this college. There seems to be a definite need, therefore, of a closer articulation of high school and college. It is indicated that the required Freshmen courses may possibly be geared to a higher level of preparation than that offered for admission by many students, particularly in mathematics.

CHAPTER V

SUMMARY AND CONCLUSIONS

This study has revealed that for the two entering classes of Richmond College students separated by a ten year interval, in which World War II was fought, there were some instances where high school academic preparation appeared to be linked with academic success in college. In all classifications of high schools a tendency to fluctuate in the relative ranking of their respective students in college over this ten year interval was noted.

The large Virginia public high schools seem to be equal to out-of-state public high schools in their preparation of students to enter Richmond College. It would seem that the large Virginia public high schools are doing a better job of preparing students now than before the war. Increased drop-out rates since World War II would tend to indicate that students are not being prepared for college entrance by any kind of secondary school as well now as they were before the war. Course offerings of large Va. high schools seem to be equal to course offerings of out-of-state public high schools.

It might well be that these high schools are preparing men better for colleges where there is a more liberal policy of gearing college courses to the level of training which the student has upon entrance. It may be stated

here that the colleges in the mid-west and west have long followed this policy.[1] There seems to be a tendency for most colleges of the Southern Association to cling to the older, more formal system of subject matter entrance requirements.[2]

In the second phase of this study, it was indicated that the academic top forty per cent of a high school graduating class is better suited for admission to college than are students of a lower rank. A tendency was shown to indicate that the student who did well in high school academic work tended to do well in his college studies. It was also demonstrated that poor students in high school seldom were able to achieve academic success in college. Therefore, it is reasonable to conclude that there is a tendency for a close relationship between the ability to achieve academic success in high school and to achieve academic success in Richmond College.

In the study of relationship of high school courses taken in preparation for college and academic success in college, it was found that there was a tendency for successful college students to have pursued more academic subjects in

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1. Conference with Dr. John F. Showalter, Richmond City School System, Richmond, Virginia.

2. Ibid., and Southern Association of Schools and Colleges, Cooperative Study for the Development of Education. 1946. Passim.

high school than did college failures. The failing students studied tended to take more vocational, clerical and miscellaneous courses than mathematics, foreign languages, and science. Perhaps the students who are prepared in a much more diversified range of subjects would prove themselves to be better college students in other colleges which place less emphasis on academic work in entrance requirements. It is believed that students who are required to make up high school work in college level classes, receiving no credit for college graduation, may become discouraged and lose interest.[3]

It was found that as the number of years of high school background increased, the chances of success in first year college mathematics increased. This may indicate that the first year course in mathematics at Richmond College is geared to a definite background preparation rather than to the level of all students' preparation. It is indicated that the thoroughness of high school preparation in secondary school subjects may improve expectancy of success in Richmond College. It was also noted that the most successful college students usually had taken two or more units of foreign language in high school while the academic failures examined had no

3. Dr. Showalter, op.cit., personal experience as an undergraduate, and observation of fellow students.

foreign language background in most cases. Here again, it may be that making up high school deficiencies in college level classes for no college credit may dishearten students and cause them to lose interest.

This study would indicate that the academically high ranking high school student pursues a more academic course of study than the lower ranking student. It also would tend to indicate that a thorough background in academic work is essential to academic success in Richmond College. Four years of high school preparation in English seems to be essential to college success in a great majority of cases.

In conclusion, it may be said that only the top ranking forty per cent of any high school graduating class should be encouraged to apply for admission to Richmond College unless the policies of the college are revised to meet the changes in high school curricula which have tended to become more general; that students who express a desire or intention to go to Richmond College should be guided into pursuing an academically sound background course of studies; that there should be no stigma in the minds of any academically successful high school student concerning his expectancy of success in college no matter from what kind of high school he may graduate.

It is also recommended that the findings of this study should be followed up at regular intervals in order that the Admissions Committee of Richmond College may follow more closely the trends of high school preparation. In this way, it should be possible to bring the high rate of drop-outs down to a much lower percentage. It would also be worth while for the findings of this study to be made available to all secondary schools whose graduates may be enrolled in this or any other liberal arts college which is as conservative as Richmond College.

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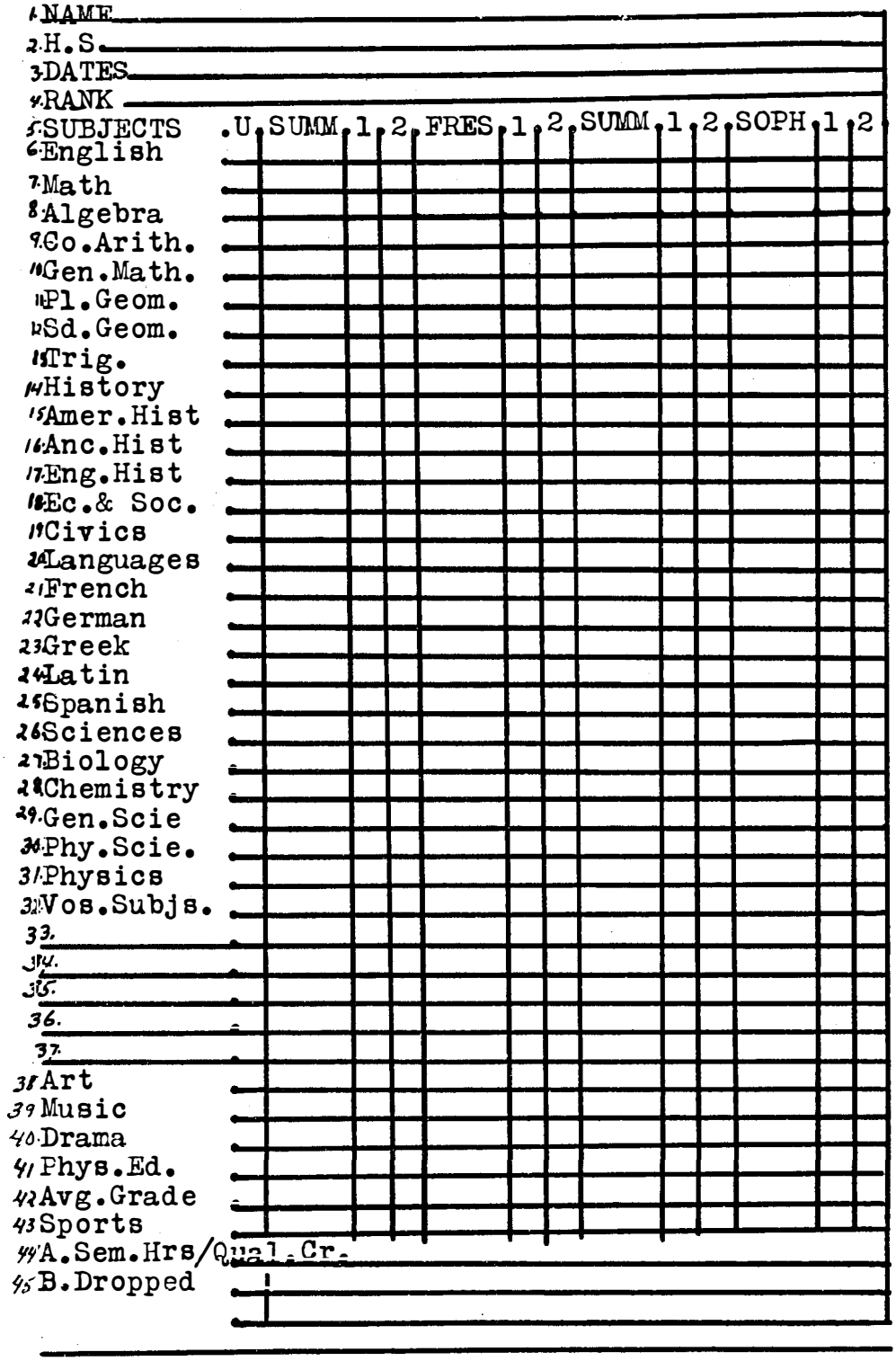
APPENDIX


1 NAME
2 H.S.
3 DATES
4 RANK
5 SUBJECTS
U SUMM 1 2 FRES 1 2 SUMM 1 2 SOPH 1 2
6 English
7 Math
8 Algebra
9 Co.Arith.
10 Gen.Math.
11 Pl.Geom.
12 Sd.Geom.
13 Trig.
14 History
15 Amer.Hist
16 Anc.Hist
17 Eng.Hist
18 Ec.& Soc.
19 Civics
20 Languages
21 French
22 German
23 Greek
24 Latin
25 Spanish
26 Sciences
27 Biology
28 Chemistry
29 Gen.Scie
30 Phy.Scie.
31 Physics
32 Vos.Subjs.
33.
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37.
38 Art
39 Music
40 Drama
41 Phys.Ed.
42 Avg.Grade
43 Sports
44 A.Sem.Hrs/Qual.Cr.
45 B.Dropped